

What is Claimed Is:

1. A method in a server configured for providing web based management of host computers in communication via an open protocol network, the method comprising:

first receiving, from a user, a web-based user request requiring execution of a management operation by at least one selected host computer, each host computer having an application resource for executing corresponding application operations and a management resource for executing the management operation;

10 first outputting to the at least one selected host computer a web request generated by the server based on executing the web-based user request, the web request specifying a management command for execution of the management operation by the management resource of the at least one selected host computer;

second receiving from the at least one selected host computer a web response that specifies information based on execution of the management operation; and

second outputting to the user a web-based user response based on the web response.

2. The method of claim 1, wherein the first receiving step includes receiving the web-based user request according to hypertext transport (HTTP) protocol.

3. The method of claim 2, further comprising detecting a presence of the host computers on the open protocol network.

4. The method of claim 3, further comprising third outputting to the user a web page that specifies the host computers and available management operations for the host computers, the first receiving step further including receiving the web-based user request as an HTTP post having request information based on a user selection from the web page.

5. The method of claim 2, wherein the first outputting step includes inserting within the web request an identifier specifying execution by the management resource within the at least one selected host computer, and outputting the web request according to an HTTP post operation.

6. The method of claim 5, wherein the first outputting step further includes specifying at least one of a backup operation, a file transfer operation, and a status report operation as the management operation.

7. The method of claim 6, wherein the second receiving step includes receiving at least one of a backup acknowledgment, a transferred file, and a status report in response to the management operation specifying at least one of a backup operation, a file transfer operation, and a status report operation, respectively.

8. The method of claim 2, wherein the at least one selected host computer is the server and the first outputting step includes outputting the web request from the application resource of the server, configured for executing the outputting step to an HTTP interface within the server.

9. The method of claim 8, further comprising:

third receiving the web request from the HTTP interface by the corresponding management resource of the server;

executing the management operation specified by the web request by the management resource of the server; and

third outputting to the HTTP interface the web response that specifies the information based on execution of the management operation.

10. The method of claim 9, further comprising:

generating by the management resource of the server a second web request for execution of a second management operation by at least a second host computer of the open protocol network, the second management operation necessary for execution of the management operation;

fourth outputting the second web request by the management resource of the server to the at least second host computer; and

fourth receiving from the at least second host computer a second web response that specifies information based on execution of the second management operation, the web response generated based on the second web response.

11. A server configured for providing web based management of host computers in communication via an open protocol network, a server comprising:

a web based interface configured for receiving a web-based user request from a user and outputting a web page, the web based interface configured for outputting a web request to an identified host computer and receiving a web response from the identified host computer; and

an executable application configured for identifying the identified host computer for execution of a management operation necessary for generating the web page in response to the web-based user request, the executable application generating within the web request an identifier that specifies execution of the management operation by a management resource within the identified host computer, the executable application generating the web page based on results of execution of the management operation specified within the web response.

12. The server of claim 11, wherein the web based interface is configured for receiving the web-based user request according to hypertext transport (HTTP) protocol, the executable application generating the web request according to an HTTP post operation.

13. The server of claim 12, further comprising a software resource configured for detecting a presence of the host computers on the open protocol network.

14. The server of claim 13, wherein the executable application specifies within the web page the host computers and available management operations for the host computers.

15. The server of claim 11, wherein the executable application specifies within the web request at least one of a backup operation, a file transfer operation, and a status report operation as the management operation.

16. The server of claim 11, further comprising a second management resource configured for executing a specified management operation in response to a second web request received by the web based interface, the second management resource configured for outputting to the web based interface a second response that specifies second results of execution of the corresponding specified management operation specified by the second web request.

17. The server of claim 16, wherein the identifier in the web request specifies the second management resource executed within the server.

18. The server of claim 16, wherein the executable application and the second management resource each are configured for selectively responding to an HTTP request received by the web based interface based on a corresponding identifier within the HTTP request.

19. A system configured for performing distributed computing operations, the system comprising:

a plurality of host computers configured for communication via an Internet protocol (IP) network, each host computer including:

5 (1) a web interface configured for sending and receiving web requests and web responses,

(2) a corresponding application resource configured for performing corresponding application operations, and

10        (3) a management resource configured for executing prescribed management operations in response to respective web requests received by the corresponding web interface, the management resource configured for outputting a web response that specifies results of execution of a selected management operation in response to a received web request;

15        wherein one of the host computers includes a web based management server resource as the corresponding application resource, the web based management server resource configured for generating the web request for execution of the selected management operation by at least one selected host computer in response to reception of a web request from a user, and outputting to the user a web-based user response based on the corresponding web response from the at least one selected host computer.

20. The system of claim 19, wherein each web interface is configured for sending and receiving web requests and web responses according to HTTP protocol.

21. The system of claim 20, wherein the web based management server resource and each of the management resources are configured for outputting web requests as HTTP post operations.

22. The system of claim 21, wherein the one host computer further includes a software resource configured for detecting a presence of the host computers on the IP network.

23. The system of claim 22, wherein the web based management server is configured for generating for the user a web page that specifies the host computers and available management operations for the host computers, the web request from the user including information based on a user selection from the web page.

24. The system of claim 23, wherein the web based management server specifies within the web request at least one of a backup operation, a file transfer operation, and a status report operation as the management operation.

52. The system of claim 20, wherein each management resource is configured for generating a second web request to a management resource of another one of the host computers for execution of a second management operation necessary for execution of the corresponding management operation by said each management resource, said another one of the host computers executing the second management operation in response to the second web request and returning to send each management resource a corresponding web response that specifies information based on execution of the second management operation.

53. A computer readable medium having stored thereon sequences of instructions for providing web based management of host computers in communication via an open protocol network, the sequences of instructions including instructions for performing the steps of:

54. first receiving, from a user, a web-based user request requiring execution of a management operation by at least one selected host computer, each host computer having an application resource for executing corresponding application operations and a management resource for executing the management operation;

55. first outputting to the at least one selected host computer a web request generated by the server based on executing the web-based user request, the web request specifying a management command for execution of the management operation by the management resource of the at least one selected host computer;

56. second receiving from the at least one selected host computer a web response that specifies information based on execution of the management operation; and

57. second outputting to the user a web-based user response based on the web response.

58. The medium of claim 26, wherein the first receiving step includes receiving the web-based user request according to hypertext transport (HTTP) protocol.

59. The medium of claim 27, further comprising instructions for performing the step of detecting a presence of the host computers on the open protocol network.

29. The medium of claim 28, further comprising instructions for performing the step of third outputting to the user a web page that specifies the host computers and available management operations for the host computers, the first receiving step further including receiving the web-based user request as an HTTP post having request information based on a user selection from the web page.

30. The medium of claim 27, wherein the first outputting step includes inserting within the web request an identifier specifying execution by the management resource within the at least one selected host computer, and outputting the web request according to an HTTP post operation.

31. The medium of claim 30, wherein the first outputting step further includes specifying at least one of a backup operation, a file transfer operation, and a status report operation as the management operation.

32. The medium of claim 31, wherein the second receiving step includes receiving at least one of a backup acknowledgment, a transferred file, and a status report in response to the management operation specifying at least one of a backup operation, a file transfer operation, and a status report operation, respectively.

33. The medium of claim 27, wherein the at least one selected host computer is the server and the first outputting step includes outputting the web request from the application resource of the server, configured for executing the outputting step to an HTTP interface within the server.

34. The medium of claim 33, further comprising instructions for performing the steps of: third receiving the web request from the HTTP interface by the corresponding management resource of the server;

executing the management operation specified by the web request by the management resource of the server; and

third outputting to the HTTP interface the web response that specifies the information based on execution of the management operation.

35. The medium of claim 34, further comprising instructions for performing the steps of: generating by the management resource of the server a second web request for execution of a second management operation by at least a second host computer of the open protocol network, the second management operation necessary for execution of the management operation;

fourth outputting the second web request by the management resource of the server to the at least second host computer; and

fourth receiving from the at least second host computer a second web response that specifies information based on execution of the second management operation, the web response generated based on the second web response.

36. A server configured for providing web based management of host computers in communication via an open protocol network, the server comprising:

means for first receiving, from a user, a web-based user request requiring execution of a management operation by at least one selected host computer, each host computer having an application resource for executing corresponding application operations and a management resource for executing the management operation;

means for first outputting to the at least one selected host computer a web request generated by the server based on executing the web-based user request, the web request specifying a management command for execution of the management operation by the management resource of the at least one selected host computer;

means for second receiving from the at least one selected host computer a web response that specifies information based on execution of the management operation; and

means for second outputting to the user a web-based user response based on the web response.

37. The server of claim 36, wherein the first receiving means is configured for receiving the web-based user request according to hypertext transport (HTTP) protocol.

38. The server of claim 37, further comprising means for detecting a presence of the host computers on the open protocol network.

39. The server of claim 38, further comprising means for third outputting to the user a web page that specifies the host computers and available management operations for the host computers, the first receiving step configured for receiving the web-based user request as an HTTP post having request information based on a user selection from the web page.

40. The server of claim 37, wherein the first outputting means is configured for inserting within the web request an identifier specifying execution by the management resource within the at least one selected host computer, and outputting the web request according to an HTTP post operation.

41. The server of claim 40, wherein the first outputting means is configured for specifying at least one of a backup operation, a file transfer operation, and a status report operation as the management operation.

42. The server of claim 41, wherein the second receiving means is configured for receiving at least one of a backup acknowledgment, a transferred file, and a status report in response to the management operation specifying at least one of a backup operation, a file transfer operation, and a status report operation, respectively.

43. The server of claim 37, wherein the at least one selected host computer is the server and the first outputting means is configured for outputting the web request from the application resource of the server, configured for executing the outputting step to an HTTP interface within the server.

44. The server of claim 43, further comprising:

means for third receiving the web request from the HTTP interface by the corresponding management resource of the server;

5 means for executing the management operation specified by the web request by the management resource of the server; and

means for third outputting to the HTTP interface the web response that specifies the information based on execution of the management operation.

45. The server of claim 44, further comprising:

means for generating by the management resource of the server a second web request for execution of a second management operation by at least a second host computer of the open protocol network, the second management operation necessary for execution of the management operation;

means for fourth outputting the second web request by the management resource of the server to the at least second host computer; and

means for fourth receiving from the at least second host computer a second web response that specifies information based on execution of the second management operation, the web response generated based on the second web response.